

57. (new) The process of claim 1 wherein said solution further comprises phosphoric acid.

58. (new) The process of claim 44, wherein said plant growth material is selected from the group consisting of potatoes, potato tubers, and potato growth parts.

REMARKS

A review of the claims has revealed that they are not in the best form consistent with U.S. practice. Accordingly, a number of cosmetic amendments have been made above. Such amendments are of a formal nature only, i.e. made to place the claims in better form consistent with U.S. practice. Such amendments are not "narrowing" amendments because the scope of the claims has not been reduced. No limitations have been added and none are intended; the meaning of the claims remains the same.

Further review of the Office Action of September 30, 2002, and the Reply filed December 18, 2002, reveals that applicant has not designated a specific dispersed metal or metal ion. To the extent required, applicant further elects silver as the dispersed metal or metal ion.

Claims 10 and 11 have been deleted. Applicant believes that all the remaining claims are generic or specific to the elected subject matter.

Respectfully submitted,

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Version with Markings to Show Changes Made

1. (Amended) An environmentally compatible process for treating plant matter and foodstuffs, during storage, distribution and marketing, preplanting, growing, and pre and post harvest, to increase yields and yields of marketable sizes, eliminate health hazards, impart storage stability, extend shelf life and inhibit premature sprouting, rooting, "black-heart" formation, germination, blossoming, and losses in quality and/or quantity of said plant matter and foodstuffs as result of premature sprouting, rooting, "black-heart" formation, germination and blossoming, said plant matter and foodstuffs including tubers ~~such as potatoes~~, bulbs, seeds grains and other germinating materials ~~matter or items~~, plant vegetative propagation materials ~~matter or items~~, ~~as well as various and~~ fruits and vegetables ~~including solanaceous fruits and vegetables~~, by treating the said plant matter or foodstuffs, ~~plant matter and foodstuffs~~, during storage, distribution and marketing, preplanting, growing, and pre and post harvest, with an effective aqueous dosage solution comprising an effective concentration of hydrogen peroxide, and optionally comprising, an effective dosage of one or more additional components selected ~~form~~ from ~~the following types of substances~~ the group consisting of:

- (i) ~~effective~~ trace concentrations of dispersed metals or metal ions;
- (ii) ~~effective concentrations of~~ other and/or additional hydrogen peroxide activators, synergists and promoters;
- (iii) ~~effective concentrations of~~ hydrogen peroxide stabilizers and modifiers;
- (iv) ~~effective concentrations of~~ pH regulators; and
- (v) ~~effective concentrations of~~ organic and/or inorganic additives,

wherein the effective concentration of hydrogen peroxide, time of treatment and form of application are such as to prevent such plant matter and foodstuffs quality and/or quantity loss, but at the same time not so high as to cause or induce damage to the plant matter and foodstuffs themselves.

6. (amended) A process as in claim 1, wherein the optional metals or metal ions are present in a concentration ~~is~~ in the range from 1 ppb to 50,000 ppm.

7. (amended) A process as in claim ~~1~~6, wherein the metals or metal ions concentration is in the range from 10 ppb to 20,000 ppm.

8. (amended) A process as in claim ~~16~~, wherein the metals or metal ions concentrations is in the range from 50 ppb to 1,000 ppm.

9. (amended) A process as in claim 6, wherein the metal ion is silver ion.

12. (amended) A process as in claim 1 in which the treatment solution contains in addition to said hydrogen peroxide, one or more of said optional substances selected from ~~such as but not limited to, dispersions dispersed of~~ metals, ~~non-metals, or~~ metal ions (of various valences when appropriate) such as, or additives selected from the group consisting of copper, zinc, nickel, iron, potassium, manganese, silver, chromium, molybdenum, magnesium, boron, phosphorus, iodine, sulfur, citrate, ~~etc., or~~ and combinations thereof.

13. (amended) A process as in ~~in~~ claim 1 in which the treatment solution contains in addition to said hydrogen peroxide and said dispersed metals or metal ions, one or more ~~hydrogen peroxide or~~ of trace activator stabilizers or modifiers, ~~such as but not limited to citric acid, tartaric acid, boric acid or bromic acid.~~

14. (amended) A process as in claim 1 in which the treatment solution contains in addition to said hydrogen peroxide and said dispersed metal or metal ions, one or more pH regulators selected from the group consisting of mineral acids and/or organic acids, said mineral acids including comprising phosphoric acid, nitric acid, hydrochloric acid and sulfuric acid and ~~aid~~ said organic acids including comprising peracetic acid.

15. (amended) A process as in claim 1 in which the treatment solution contains in addition to said hydrogen peroxide and said dispersed metal or metal ions, ~~one or more organic or inorganic additives selected from peracetic acid, phenol, gelatin, glycerin, sodium azide, polymoxin B, sodium bicarbonate, pectin, salicylic acid, etc~~ phosphoric acid.

43. (amended) ~~Plant matter and foodstuffs when~~ A product treated substantially as hereinbefore described in accordance to the process of claim 1.

44. (amended) A process for inhibiting premature sprouting and enhancing the productivity in plant growth material, ~~e.g., potatoes, potato tubers, potato growth material or other plant growth material,~~ by effecting Apical

Dominance Breakdown in said ~~potatoes, potato tubers, potato growth material or other plant growth material~~, comprising treating the potatoes, potato tubers, potato growth material or other plant growth material with an effective aqueous dosage comprising an effective concentration of hydrogen peroxide, and optionally comprising, one or more additional components selected from the ~~following types of substances~~ group consisting of:

- (i) effective trace concentrations of dispersed metals or metal ions;
- (ii) effective concentrations of other and/or additional hydrogen peroxide activators, synergists and promoters;
- (iii) effective concentrations of hydrogen peroxide stabilizers and modifiers;
- (iv) effective concentrations of pH regulators;
- (v) effective concentrations of organic and/or inorganic additives.

45. (amended) A process for effecting Apical Dominance Breakdown in a plant growth material, e.g., selected from the group consisting of potatoes, potato tubers, potato growth ~~parts~~ material or other plant growth material, comprising treating the potatoes, potato tubers, or potato

~~growth material parts or other plant growth material~~ in accordance with claim 1.

46. (amended) A product selected from the group consisting of Ppotatoes, potato tubers and potato and other plant growth material parts, treated to bring about Apical Dominance Breakdown in accordance with claim 1.

47. (amended) A composition for treating in an environmental friendly manner, plant matter and foodstuffs, during storage, distribution and marketing, preplanting, growing, and pre and/or post harvest, to increase yields, eliminate health hazards, impart storage stability, extend shell life and inhibit premature sprouting, rooting, "black-heart" formation, germination, blossoming, decay, pathogenic losses and other processes causing losses in quality and/or quantity of said plant matter and foodstuffs, and promote apical dominance breakdown, said plant matter and foodstuffs including tubers ~~such as potatoes~~, bulbs, seeds grains and other germinating ~~matter or items~~ materials, plant vegetative propagation ~~matter or items~~ materials, as well as various fruits and vegetables ~~including solanaceous fruits and vegetables~~, said composition being also suitable to treat earth, other growth media and substrates, equipment,

materials, water, spaces and surfaces to reduce and eliminate harmful organisms and substances therefrom, comprising

(a) 0.001% to 50% of hydrogen peroxide

(b) 0.001% to 5% of metal ion selected from the group consisting of copper, zinc, nickel, iron, manganese, molybdenum, potassium ~~or~~ and combinations thereof,

and optionally one or more of

(i) effective trace concentrations of other dispersed metals or metal ions;

(ii) effective concentrations of other and/or additional hydrogen peroxide activators, synergists and promoters;

(iii) effective concentrations of hydrogen peroxide stabilizers and modifiers;

(iv) effective concentrations of pH regulators;

(v) effective concentrations of organic and/or inorganic additives.

48. A composition for treating in an environmental friendly manner, plant matter and foodstuffs, during storage, distribution and marketing, preplanting, growing, and pre and/or post harvest, to increase yields, eliminate health hazards, impart storage stability, extend shelf life and inhibit premature sprouting, rooting, "black-heart" formation,

germination, blossoming, decay, pathogenic losses and other processes causing losses in quality and/or quantity of said plant matter and foodstuffs, and promote apical dominance breakdown, said plant matter and foodstuffs including tubers—~~such as potatoes, bulbs, seeds grains and other germinating matter or items~~materials, plant vegetative propagation matter ~~or items~~materials, as well as various fruits and vegetables including solanaceous fruits and vegetables, said composition being also suitable to treat earth, other growth media and substrates, equipment, materials, water, spaces and surfaces to reduce and eliminate harmful organisms and substances therefrom, comprising

(a) 0.001% to 50% of hydrogen peroxide

(b) 0.001% to 2.5% of silver ion

(c) 0.001% to 2.5% of metal ion selected from the group consisting of copper, zinc, nickel, iron, manganese, molybdenum, potassium ~~or~~ and combinations thereof

and optionally one or more of

(i) effective trace concentrations of other dispersed metals or metal ions;

(ii) effective concentrations of other and/or additional hydrogen peroxide activators, synergists and promoters;

- (iii) effective concentrations of hydrogen peroxide stabilizers and modifiers;
- (iv) effective concentrations of pH regulators;
- (v) effective concentrations of organic and/or inorganic additives.

49. (amended) An environmentally compatible process for reducing and eliminating harmful organisms and substances from earth and other growth media and substrates, by treating the said earth, other growth media and substrates, with an effective dosage of a composition comprising an effective concentration of hydrogen peroxide and optionally comprising, an effective dosage of one or more additional components selected from the ~~following types of substances~~ group consisting of:

- (i) ~~effective-trace~~ concentrations of dispersed metals or metal ions;
- (ii) ~~effective concentrations of~~ other and/or additional hydrogen peroxide activators, synergists and promoters;
- (iii) ~~effective concentrations of~~ hydrogen peroxide stabilizers and modifiers;
- (iv) ~~effective concentrations of~~ pH regulators; and

- (v) ~~effective concentrations of~~ organic and/or inorganic additives.

54. (amended) An environmentally compatible process for treating plant matter and foodstuffs, during storage, distribution and marketing, preplanting, growing, and pre and post harvest, to increase yields and yields of marketable sizes, eliminate health hazards, impart storage stability, extend shelf life and inhibit pathogenic losses and other processes causing losses in quality and/or quantity of said plant matter and foodstuffs, said plant matter and foodstuffs including tubers—~~such as potatoes, bulbs, seeds grains and other germinating matter or items~~materials, plant vegetative propagation ~~matter or items~~materials, as well as ~~and~~ various fruits and vegetables ~~including solanaceous fruits and vegetables,~~ by treating the said plant matter or foodstuffs, ~~plant matter and foodstuffs,~~ during storage, distribution and marketing, preplanting, growing, and pre and post harvest, with a synergistic effective aqueous dosage solution comprising
an effective concentration of hydrogen peroxide, and silver ion, and optionally further comprising, an effective dosage of one or more additional components selected ~~form~~ from the ~~following types of substances~~group consisting of:

- (i) ~~effective~~ trace concentrations of dispersed metals or metal ions;
- (ii) ~~effective concentrations of~~ other and/or additional hydrogen peroxide activators, synergists and promoters;
- (iii) ~~effective concentrations of~~ hydrogen peroxide stabilizers and modifiers;
- (iv) ~~effective concentrations of~~ pH regulators; and
- (v) effective concentrations of organic and/or inorganic additives,

wherein the effective concentration of hydrogen peroxide, time of treatment and form of application are such as to prevent such plant matter and foodstuffs quality and/or quantity loss, but at the same time not so high as to cause or induce damage to the plant matter and foodstuffs themselves.

55. (amended) ~~Plant matter and foodstuffs when~~ A product treated substantially as hereinbefore in according to the process of claim 54.

56. (amended) An environmentally compatible process for reducing and eliminating harmful organisms and substances from equipment, materials, water, spaces and surfaces by treating said equipment, materials, water, spaces and surfaces with an effective dosage of a synergistic composition comprising

an effective concentration of hydrogen peroxide,
silver ion, and an effective trace concentrations of dispersed
metals or metal ions other than silver, and optionally
comprising, an effective dosage of one or more additional
components selected from the ~~following types~~ group consisting
of ~~substances~~:

- (i) ~~effective concentrations of~~ other and/or additional
hydrogen peroxide activators, synergists and
promoters;
- (ii) ~~effective concentrations of~~ hydrogen peroxide
stabilizers and modifiers;
- (iii) ~~effective concentrations of~~ pH regulators;
- (iv) ~~effective concentrations of~~ organic and/or inorganic
additives.